

Appl. No. 10/572,896
Amdt. Dated March 17, 2010
Reply to Office action of Sept. 18, 2009

Amendments to the Drawings:

There are no changes to the drawings.

REMARKS/ARGUMENTS

Applicant agrees with examiner that certain original claims lacked precision, therefore they are amended within this response.

Applicant believes that amended claims differentiate more precisely his invention from Griffin et al. and Olodort et al., thus arguments contained in Office action of September 18, 2009, sections 1 and 2 are no longer applicable.

Specifically, amended claim 1 differentiates the bottom portion and keys position from Griffin et al. and Olodort et al. The key indication and display is addressed in amended claim 11.

With respect to claim 2, amended claim 2 clarifies QWERTY arrangement of the invention differentiating it from Griffin et al.

In light of claim 1 amendment, examiner's objections regarding claim 3 are no longer applicable.

With respect to claims 10 and 13, amended claims 10 and 13 clarify the palm and finger arrangement.

With respect to claim 11, amended claim 11 clarifies the way the keys are displayed. Lack of a monitor is not claimed here. Applicant argued that the monitor was an integral part of Griffin's invention, whereas it was not an integral part of applicant's invention.

With respect to claim 14, one skilled in the art cannot consider any device with a plurality of keys a keyboard. Griffin's device comprises, among other parts, of a plurality of keys, but it's clearly a hand held device with more advanced than keyboard functionality, which is not claimed in our invention.

With respect to claims 16 and 17, amended claims 16 and 17 clarify limitations directed to the bottom portion of the housing, indicating mechanism and QWERTY arrangement of the keys.

With respect to claim 18, amended claim 18 clarifies the QWERTY arrangement differentiating it from Griffin et al.

With respect to claim 1 and the argument directed to the keys being normally invisible is addressed by amended claim 1. The activation of the keys is addressed by amended claim 1. The reverse orientation of the keyboard is addressed by amended claims 1 and 2. Griffin's and Olodort et. al. devices can rest in a user's palms, but not in such a way that fingers being behind the rear portion can operate the keys.

With respect to claim 6, 8 and 9 and the argument directed to the support mechanism is addressed by amended claim 1.

Regarding **"Response to Amendment,"** the applicant has supplied the Commissioner of Patents with the Power of Attorney on 9/17/2009. The POA Acceptance Letter was mailed to the applicant by the USPTO on 10/6/2009 (confirmation no. 2966).

Regarding **"Claim Objections,"** claim 5 is being hereby amended, thus no longer lacking antecedent basis.

Regarding **"Drawings,"** and **"Specification,"** the drawings were prepared based on specifications included in the original patent application. Therefore, figure 9 and figure 10 do not introduce new matter. The harness and legs were not only claimed in claims 7 and 8, but also described in detail in the original specifications. Therefore, applicant requests another consideration or more specific definition of the new matter.

Regarding examiner's rejections based on 35 USC par. 102

8. For claim 1: Griffin teaches a keyboard which has a plurality of keys at the bottom portion, but this bottom portion does not correspond to our "bottom" portion. Griffin's bottom portion is the side which faces the operator. In our invention "bottom" portion 112 refers to the side which faces away from the operator (Fig. 1 and 2 of our application), it is underneath the device (per comparison to an open book: the text faces the operator – this is where Griffin placed his keys, the cover faces away, this is where we placed our keys). Our keys can be activated from the side that faces away from the operator by pushing up (Fig. 5 of our application), whereas Griffin's keys cannot (Griffin Fig. 9 and 10). We see this as fundamentally different from what Griffin teaches about his keys which are meant to be operated by thumbs (pushing down). His device is optimized for use with the thumbs, while ours is used with ten fingers (paragraph 35 of our application).

Griffin et al. teaches a hand held electronic device with a keyboard 4008 which is not a stand alone keyboard as in our claim 1.

Griffin et al. teaches a screen capable of displaying the keys "which are pressed." In our invention, we indicate or display "the character or function of keys" on the keyboard independently from any user action, so for instance the layout can be changed according to needs. This idea is described in claims 11, 17, 23, 24, paragraph 33, 34 and Fig. 3 and 4 of our application.

For claim 2: Griffin teaches a different keyboard, our keyboard can be understood as a mirror image of Griffin's device (those two discussed keyboards, Griffin's and ours are placed on two opposite, thus different, sides of the keyboard surface), thus the QWERTY layout in our keyboard is not obvious.

In our detailed description we teach two QWERTY variations (paragraphs 23 and 29 and Fig. 7 and 8 of our application): one refers to a layout which can be seen as QWERTY by the user (paragraph 23 note: the key distribution is different in respect to particular fingers than in regular keyboard) another refers to a QWERTY layout that can be used by touch typists (paragraph 29, the same keys are under the same fingers as on a regular keyboard, but to the user it looks different than a regular QWERTY layout). In our

keyboard design it is impossible to have a QWERTY layout that has a finger-key position identical to a QWERTY layout, and looks to the user like a QWERTY layout at the same time. You can either have a keyboard which you type like a QWERTY (if you are a touch-typist) or you have a keyboard which looks like a regular QWERTY but the key-finger position is not QWERTY. The reason for that is that the keys are placed on the bottom portion 112 of the keyboard 100. This feature illustrates that our idea is fundamentally different than Griffin's et al.

For claim 3: Since claim 1 of our invention does not follow Griffin's idea we think that a key activated from the side portion of the housing in this configuration is novel.

For claim 10: Griffin's teaches a hand-held device that fits the palm of the hand and can be operated substantially with the thumbs (Griffin et al. page 1 paragraph 8). This is significantly different than a keyboard which rests on a user's palm (claim 10 of our invention) and permits ten-finger typing (Detailed description of our invention, see paragraph 35) and shown in figures 1, 2, 6, 7 and 8 of our application. The figures specifically show palm and finger positions and that 10 fingers can be used because the device rests on a user's palms, not merely fits in them. In order to rest on the palms the device has to be contoured in a very specific way shown in figures 1, 2, 6, 7 and 8 of our application. This feature distances our invention from Griffin's which is specifically optimized for data entry through the use of thumbs (Griffin et al. page 1 paragraph 7).

For claim 11: Although Griffin et al. teaches a mechanism that gives instructions for displaying in a preferred embodiment characters on a display and characters displayed on a screen constitute a projected image and form a part a mechanism for indicating the function of the keys, he doesn't teach that the actual keys are displayed on the preferred embodiment of the keyboard as shown in figure 3 and 4 of our application and described in our detailed description (paragraph 24 of our application). The difference is fundamental since Griffin's image of the key indicates user's action (depression of a specific key), while our invention teaches that the keyboard displays the actual key on a transparent monitor forming, in a sense, a key. In our invention, keys on a keyboard can be changed or rearranged (preferred embodiment described in paragraph 24).

Griffin's paragraph 57 that you quote rejecting our claim 10 starts with words "when any key is depressed...", whereas our preferred embodiment displays keys to the user prior to his/her action,. In addition, our keyboard does not have any monitor in the upper part of the device. The images of the keys are projected via the transparent monitor that covers the entire area of the keyboard housing (Fig. 3 and 4 and paragraph 24 of our application) Griffin's intentions and preferred embodiment described in paragraph 57 are different than ours.

For claim 13: In rejecting our claim 13 you quote Paragraph 8 page 1 of the Griffin's invention and say that he teaches keyboard which rests on a user's palms. This is not accurate as Griffin et al. teaches in paragraph 8 page 1 the device "that can fit in the palm of the hand and can be operated substantially with the thumbs." This is different that "a housing that is contoured to rest on a user's palms" where the preferred embodiment is

shown in figures 1, 2, 6, 7 and 8 of our application and permits ten-finger typing (Detailed description of our invention, see paragraph 35).

For claim 14: Although Griffin teaches a device which has a key 5012 on the right side 4006 of the housing, his device is a hand-held device with a keyboard not a keyboard itself. The way how Griffin teaches his device and shows preferred embodiment (page 1 paragraph 8, 7 and Fig. 9 and 10 of Griffin) is different than ours in a sense that his device has a small monitor portion and a keypad portion and is not meant to rest on a user's palms and be operated by ten fingers. In light of these facts our claim that teaches a keyboard which has at least one key activatable from one side portion of the device is novel.

For claims 16 and 17: Griffin et al. teaches that the bottom portion of the housing constitutes a keyboard, but unlike in our invention his "bottom" portion of the housing faces the user. Our "bottom" indicates portion of the housing facing away from the user.

Those two portions are different functionally, geometrically and ergonomically.

The "bottom" portion of our housing is literally underneath the device and can be reached by eight fingers (all fingers except thumbs), while Griffin's keyboard faces the user and is operated by the thumbs. In light of this difference our key indication is different than Griffin's. It has to indicate keys which are normally not visible to the user since they are covered by the keyboard housing (see Fig. 5 of our application). Moreover, our invention, as shown in preferred embodiments in figures 1, 2, 3, 4, 7 and 8 of our application does not have any separate screen located in any particular portion of the device. The mechanism for key indication is achieved by projection on the entire keyboard surface. In other words, the keyboard is capable of projecting images on its surface (see Fig. 4 of our application) and detailed description of the invention (paragraphs 24-26 of our application). This indicating mechanism is fundamentally different than Griffin's since the characters or icons indicate the area under which the actual key is located. In our invention there is a clear need for it since the keys are "under" the top portion and are normally not visible to the user. Griffin's key indicators don't serve this purpose since keys are visible. Also, the screen in Griffin's teaching indicates only which key or function has been activated. It doesn't show which key represents which character or function prior to user's action. Griffin's et al. teaches in paragraph 57 page 5 "When any key on the device is depressed ...," the entire paragraph refers to key indication as a reaction to a particular key activation. In paragraph 57 page 5 Griffin et al. teaches how this indication takes place after an action is taken by the user. In our invention key indication refers to the current keyboard layout.

Our indication mechanism is not similar to Griffin's. In his invention the operating system launches software applications linked to certain keys. Then applications indicate where characters are to be displayed on the display. Our indication mechanism labels the keys, so for instance it makes possible to change the layout (e.g. QWERTY to non-QWERTY layout, paragraph 30 of our application).

For claim 18: Since our keys are on the invisible to the user side of the device, facing away from the user (see Fig. 5 and paragraph 23 of our application), a comparison with Griffin's teachings is not valid. A QWERTY layout is not the same since the keys are activated from the bottom portion by pressing up.. In our detailed description we teach two QWERTY variations (paragraphs 23 and 29, and Fig. 7 and 8 of our application): one refers to a layout which can be seen as QWERTY by the user (paragraph 23 note: the key distribution is different in respect to particular fingers than in regular keyboard), another refers to a QWERTY layout that can be used by touch typists (paragraph 29 of our application), where the same keys are under the same fingers as on a regular keyboard, but to the user the keyboard layout looks different than a regular QWERTY layout). In our keyboard design it is impossible to have a QWERTY layout that has a finger-key distribution identical to a QWERTY layout, and that looks to the user like a QWERTY layout at the same time. You can either have a keyboard which you type like a QWERTY or you have a keyboard which looks like a regular QWERTY to the user, but the keys are activated by different fingers. The reason for that is that the keys are placed on the bottom portion 112 of the keyboard 100. This feature illustrates that our idea is fundamentally different than Griffin's et al.

9. For Claim 1: Olodort teaches that the top, bottom, first and second side portions where the keys are located face the user. User activates the keys by pushing them in traditional way from top to bottom.

Our keys are located on the normally invisible for the user side 112 of the keyboard 100 called in our invention "bottom" part of the keyboard. The user activates the keys using his/her fingers pushing from beneath towards the user's face (up). The keyboard is reversed and rests on user's palms. Those features are nowhere to be found in Olodort's teachings.

Olodort teaches a keyboard which is not hand-held but portable. It is not meant to be operated while being held by the user. It requires a physical support in order to be unfolded and placed for typing.

Our device (see figures 1, 2, 3, 4, 5, 6, 7 and 8 of our application) is meant to be a hand-held device which can be operated by ten fingers and at the same time held by the user.

For claims 6 and 8: Olodort's keyboard does not have keys operated from the bottom part of the keyboard as shown in our Fig. 5 (this part of Olodort's keyboard rests on a desk). Thus clearly his support mechanism refers to a different keyboard configuration. In light of this fact our support mechanism is novel.

For Claim 9: Olodort's keyboard does not have keys operated from the bottom part of the keyboard as shown in our Fig. 5 (this part of Olodort's keyboard rests on a desk). Thus clearly his radio connection through radio antenna refers to a different device-keyboard configuration. In light of this fact our wireless connection is novel.

Regarding examiner's rejections under 35 USC§ 103

11. For claims 4 and 15: Claims 4 and 15 refer to keyboard of claim 1 and claim 13 which are different than thought by Griffin et al. (US PG Pub 2002/0149567) as we showed above in points 2-4. Ito et al. teaches transparent keyboard which has traditional layout and is not hand-held. Moreover, transparency in our case serves the purpose of helping the user find the keys, which are placed on the side of the keyboard which is normally not visible to the user. User can see his or her fingers through the keyboard. Transparency in Ito's invention serves the purpose of improving the aesthetics of the product.

In light of these facts transparency of our device is novel and is not an obvious combination of features to one of ordinary skill in the art. It would not have been obvious to one of ordinary skill in the art at the time of invention was made, to manufacture the handheld device of our design in transparent casing.

12. For claim 5: Griffin et al. teaches different keyboard than ours as we explain in points 2-4 above, thus Lewis et al. teachings combined with Griffin's give no basis for similar to ours invention. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to use opaque keys with transparent icons for purpose allowing the keys to be backlit for use in the dark.

13. For claim 6 and 7: Griffin et al. teaches different keyboard than ours as we explain in points 2-4 above, thus Janik's et al. teachings combined with Griffin's give no basis for similar to our invention. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to use harness as a support for the keyboard.

14. For claims 12 and 19: (import explanation for claim 1) Griffin et al. teaches different keyboard than ours as we explain in points 2-4 above, thus Ijas' et al. teachings combined with Griffin's give no basis for similar to ours invention. Especially that our keyboard is inverted, requires different palm position and keys are pushed from the bottom portion up, thus ergonomically positioned keys would have different layout than those pushed from the top portion down. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to ergonomically position the keys for the purpose of reducing stress and strain on the hands of the user.

15. For claims 20 and 22-25: Griffin et al. teaches different keyboard than ours as we explain in points 2-4 above. Lewis' side portions significantly differ from ours. Our side portions are edges of the keyboard's housing (114, 116), they don't face the user. In normal position they are placed on a surface which is at 90 degree angle in respect to the user's line of view. Lewis' side portions face the user. Lewis' keys placed on side portions are activated in a normal manner by pushing them down by fingers. In our invention side portions are exclusively operated by the thumbs and keys are depressed from the sides.

Thus Lewis et al. teachings combined with Griffin's give no basis for similar to ours invention. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate the idea of two side portions both having keys to be placed on the apparatus for the purpose of affecting additional functions.

For claim 22: Griffin et al. does not teach a keyboard of the electronic device comprising the housing contoured to rest on a user's palms (claim 20 and Fig. 1 of our application). Figure 1 shows how ten fingers are free and can be used for typing on the bottom portion of the keyboard). He teaches a hand-held device that can fit in the palm of the hand and that can be operated substantially with the thumbs (Griffin et al. paragraph 8 page 1). Those two ideas are fundamentally different. Lewis et al. teaches transparent top surface 1305 and translucent glyphs 1301, 1302 but on a traditional keyboard. Griffin's electronic hand-held device and Lewis' teachings on transparency would not result in idea similar to this presented in claim 22. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to use opaque keys with transparent icons for the purpose allowing the keys to be backlit for use in the dark.

Claims 23 and 24: Griffin et al. teaches a mechanism for indicating the character of the function of the keys as pressing the key can cause the character to be displayed on the screen (Griffin et al. page 5 paragraph 57). In our invention the mechanism for indicating the character or function is not activated by pushing a key. The keys are indicated on the keyboard not on the screen and help the user determine which performs a specific function (paragraph 34 of our application) even prior to pushing it.

For claim 25: Griffin et al. teaches a hand held device with a keyboard facing the user and a QWERTY keyboard layout (Griffin et al. page 1 paragraph 4). He doesn't teach a QWERTY keyboard layout on a keyboard which faces away from the user and is activated by ten fingers as shown in our Fig. 1 and 5.

16. For claim 21: Griffin et al. does not teach all the limitations of claim 21 in parent claim 20. Claim 21 refer to keyboard of claim 20 which is different than thought by Griffin et al. (US PG Pub 2002/0149567) as we showed above in points 2-4. Ito et al. teaches transparent keyboard which has traditional layout and is not hand-held. Moreover, transparency in our case serves the purpose of helping the user find the keys which are placed on the side of the keyboard, which is normally not visible to the user (paragraph 34 of our application). User can see his or her fingers through the keyboard housing. Transparency in Ito's invention serves merely the purpose of improving the aesthetics of the product.

In light of these facts, transparency of our device is novel and is not an obvious combination of features to one of ordinary skill in the art. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to manufacture the handheld device of our design in transparent casing.

17. Claim 26 cannot be rejected under 35 USC 103(a) since Griffin et al. and Lewis et al. teach different keyboards than ours as we explain above, thus Ijas' et al. teachings combined with Griffin's and Lewis' give no basis for similar to ours invention. Specifically our keyboard is inverted, requires different palm position, is not operated by the thumbs (Griffin et al. page 1 paragraph 8) and keys are pushed from the bottom portion up (paragraph 23 of our application) thus ergonomically positioned keys would have different layout than those pushed from the top portion down. It is not obvious in light of Griffin et al. and Lewis et al. Ijas et al. that inverted keyboard proposed by us can

have ergonomically positioned keys. It would not have been obvious to one of ordinary skill in the art at the time of invention was made to ergonomically position the keys for the purpose of reducing stress and strain on the hands of the user.